

USSR

GORYACHEV, O. A.

"One Method of Optimal Distribution of Material in a Thin Elastic Shell"

Tr. Kuybyshev. Aviats. In-t. [Works of Kuybyshev Aviation Institute], No 48, 1971, pp 105-112, (Translated from Referativnyy Zhurnal, Mekhanika, No 4, 1972, Abstract No 4 V219 by Ya. I. Burak).

Translation: A thin elastic envelope of fixed shape is studied, under the influence of an arbitrary force load. A function of envelope thickness is determined providing the strength conditions with minimum weight. The initial theory used is the energetic theory of strength. The condition of strength corresponds to the condition $\sigma' = [\sigma] \cos^2 \phi$, where σ' is the greatest corrected stress with respect to thickness, $[\sigma]$ is the permissible stress, $\phi = \phi(x, y)$ is the desired function of the coordinates of the mean surface.

It is found by solving the corresponding variation problem for the conditional extreme (LaGrange problem) that the optimal envelope is an envelope of equal thickness-maximum stresses, i.e., $\sigma' = [\sigma]$. An algorithm is suggested for numerical determination of the thickness of the envelope by successive approximations using the method of grids. As an example, a circular cylindrical envelope is studied, loaded by interior pressure, two concentrated forces in the central cross section and tensile forces on the edges.

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USSR

GORYACHEV, O. A., Tr. Kuybyshev. Aviats. In-t., No 48, 1971, pp 105-112.

In numerical calculations, the initial envelope used is an envelope of constant thickness, in which the corrected stresses in the points of heaviest stress are equal to the permissible stresses. It is noted that the weight of the envelope of optimal variable thickness is 44% less than the weight of the initial envelope.

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UDC 621.762.2.669.24(088.8)

GORYACHEV, P. T.

"Method of Making Powdered Nickel"

USSR Authors' Certificate No 267613, Cl. 12 n, 53/00, (C 01 g), filed 30 dec 67, published 8 Jul 70 (from RZh-Metallurgiya, No 3 Mar 71, Abstract No 3G406P by G. Derkacheva)

Translation: A method is suggested for making powdered nickel by the reduction of nickel oxide with heating. The method is unique in that, in order to intensify and simplify the process, ammonium chloride, mixed with nickel oxide and heated to 700-800⁰, is used as the reducing agent.

1/1

Electrochemistry

USSR

UDC 541.13

PIS'MEN, L. M., KUCHANOV, S. I., VOL'FKOVICH, Yu. M., GORYACHEV, R. G., and BOGOTSKIY, V. S., Institute of Electrochemistry, Academy of Sciences USSR, Moscow

"Large Scale Macrokinetics of a Hydrogen-Oxygen Fuel Cell With a Capillary Membrane"

Moscow, Elektrokimiya, Vol 9, No 9, Sep 73, pp 1262-1271

Abstract: Mass exchange calculations are reported for a hydrogen-oxygen fuel cell with a capillary membrane, considering the diffusion of ions and water in the liquid state, diffusion of gasses and vapor, filtration stream of the solution, convectional stream of the gaseous mixture, ion migration, stoichiometry and microkinetics of the anode and cathode reactions. The functions of the cell in respect to the basic construction and regimen parameters have been calculated.

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1/2 024 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--EARLY MORPHOLOGICAL CHANGES IN THE LIVER FOLLOWING ITS COMPLETE
ISOLATION FROM GENERAL CIRCULATION -U-
AUTHOR-(05)-BELINSKAYA, A.M., PLIKH, M.B., GONCHARDY, A.L., GORYACHEV,
S.P., DOROKHOYA, L.P.
COUNTRY OF INFO--USSR
SOURCE--ARKH. PATOL. 1970, 32(2), 70-3
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--LIVER, BLOOD CIRCULATION, INHIBITION, HISTOCHEMISTRY,
GLYCOGEN, RNA, NECROSIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1996/0579 STEP NO--UR/9056/70/032/002/0070/0073
CIRC ACCESSION NO--AP0117807
UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0117807

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. NO PATHOMORPHOL. AND HISTOCHEM. CHANGES WERE OBSD. IN DOG LIVERS 20 MIN SUBSEQUENT TO THEIR ISOLATION FROM GENERAL CIRCULATION. AFTER 40 MIN, THE FUNCTION OF THE ORGAN WAS DIMINISHED AND DYSTROPHIC CHANGES WERE FOUND IN PARENCHYMA. THE CONTENT OF GLYCOGEN AND RNA IN CELLS WAS REDUCED. AFTER 60 MIN, NECROBIOTIC CHANGES OF PARENCHYMA WERE OBSD. AS WELL AS DECREASE OF GLYCOGEN AND NUCLEIC ACIDS CONTENT OF HEPATOCYTES. FACILITY: KAZ. INST. KLIN. EKSP. KHIR., ALMA-ATA. USSR.

UNCLASSIFIED

USSR

UDC 681.325.5

MANSUROV, B. M., GORYACHEV, V. I., and ALEKSEYEV, YU. F.

"Adder-Subtractor"

USSR Authors' Certificate No 306462, Cl. G 06 f 7/50, filed 18 Sep 69, published 18 Oct 71 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 5, May 72, Abstract No 51241P)

Translation: A Well-known adder-subtractor operates in decimal code with storage of the "five" digit; the decimal digit uses five flip-flops. In the proposed calculator the decimal digit uses four flip-flops, and the low-order digit control circuit contains a forbidden code state correction circuit, one output of which is connected to the input of the $(n - 1)$ -th digit of the sum register, the other output to the input of the low-order digit of the sum register and to the input of the "five" digit add circuit, whose output is connected to the input of the $(n - 1)$ -th digit of the sum register; and the output of the circuit of the low-order digit of the sum register is commutated with the input of the correction circuit. This makes it possible to cut down on equipment and increase the operating speed of the device.

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1/2 073 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--IONIZATION BEHIND A SHOCK WAVE FRONT IN ARGON -U-

AUTHOR--(04)--KUCHMANOVA, L.V., BREIDO, TS.G., GORYACHEV, V.L., SUKHOV, G.S.

COUNTRY OF INFO--USSR

SOURCE--ZH. TEKH. FIZ. 1970, 40(3), 600-4

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--IONIZATION, SHOCK WAVE, SHOCK WAVE PHYSICS, ARGON, MACH
NUMBER, GAS PRESSURE, ELECTRIC CONDUCTIVITY, PLASMA CONDUCTIVITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1992/1443

STEP NO--UR/0057/70/040/003/0600/0604

CIRC ACCESSION NO--AP0112437

UNCLASSIFIED

2/2 073

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0112437

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A STUDY WAS MADE OF THE IONIZATION EQUIL. BEHIND A SHOCK WAVE FRONT IN AR FOR PRESSURES OF 1-10 MM AND MACH NOS. OF 8.8-11. THE SHOCK WAVE WAS SET UP IN THE DIAPHRAGM TUBE DESCRIBED PREVIOUSLY (G., AND S., 1967). AN INCREASE IN THE MACH NO. AND TEMP. BEHIND THE WAVE OWING TO THE DECREASE IN THE INITIAL GAS PRESSURE IN THE LOW PRESSURE CHANNEL RESULTS IN AN INCREASE IN THE ELEC. COND. OF THE PLASMA ONLY UP TO A CERTAIN PRESSURE. BELOW THIS PRESSURE, THE DECAY OF THE PLASMA SETS IN EARLIER THAN THE EQUIL. VALUE OF THE ELECTRON CONCN. IS REACHED AND THEREFORE THE COND. DECREASES. THE OPTIMUM STARTING PRESSURE FOR THE AR (FOR THE MAX. COND.) IS 5 MM HG. -

USSR

UDC 621.372.852.3(088.8)

ALBATS, M. Ye., AMIANTOVA, L. N., GORYACHEV, Yu. P., SUCHILKIN, V. F.

"Discrete Wave Guide Attenuator"

USSR Author's Certificate No 24880, Filed 15 Aug 67, Published 15 Jan 70
(from RZh-Radiotekhnika, No 8, Aug 70, Abstract No 8B212 P)

Translation: The proposed discrete wave guide attenuator consists of a segment of a rectangular wave guide and a series of controlled p-i-n-diodes included in parallel in it with displacement relative to the longitudinal axis. These diodes operate in the closed or open states. In order to decrease the number of diodes, the p-i-n-diodes are installed in the slots of the resonance diaphragms with displacements from the axis of the wave guide segments such that the attenuation introduced by the individual diodes in the open state varies according to the law: $2^{n-1} \cdot Q$ where n is the order number of the diode, and Q is the step variation of attenuation of the attenuator. There is one illustration.

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USSR

UDC 632.938

ALIMBEKOVA, M. G., and GORYACHEV, V. V., Docents, Gor'kiy Agricultural Institute

"The Spread of New Aggressive Races of Fungi Should be Prevented"

Moscow, Zashchita Rasteniy, No 11, 1971, pp 19-20

Abstract: The race of smut that occurs in Gor'kiy Oblast' infects only soft varieties of spring wheat. In 1959 test planting of the hard variety of wheat Khar'kovskaya 46 was begun in Gor'kiy Oblast', using seeds that were imported into Gor'kiy Oblast' from other parts of the USSR. Together with these seeds, a new race of smut was brought in, which affected crops of Khar'kovskaya 46. Experimental infection of a number of standards varieties of wheat as well as of the varieties Gor'kovskaya 20 and Khar'kovskaya 46 was carried out by using the new race of smut and the local race of this fungus collected from Khar'kovskaya 46 and Gor'kovskaya 20, respectively. The local race was highly virulent for soft wheat in the tests, while the new race, although its degree of virulence could not be determined precisely by infecting the standards, was highly aggressive toward hard wheat and to a lesser extent towards soft wheat. Standards recommended by V. I. Krivchenko for tests on spring wheat in Novyy Metod Differentsiatsii Ras Pyl'noy Golovni (A New Method for the Differentiation of Races of Smut), Kishinev, 1967, were used. Crops
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USSR

ALIMBEKOVA, M. G., and GORYACHEV, V. V., Zashchita Rasteniy, Vol 16, No 11, 1971, pp 19-20

of Khar'kovskaya 46 were also strongly infected with yellow rust, a disease that had not occurred before in Gor'kiy Oblast'. Experiments with the planting of seeds of Gor'kovskaya 46 that had been seeds of the large and medium fractions were affected by the disease 2-3 times less frequently than plants grown from small seeds (the ratio of infected plants was 9-11 and 24%, respectively.

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USSR

UDC: 539.192

SAMSONOV, G. V., ~~GORIACHEV, Yu. E.~~, KOVENSKAYA, E. A., and
TEL'NIKOV, Ye. Ya.

"Electron Spectrum and Physical Characteristics of Titanium,
Vanadium, and Chromium Diborides"

Tomsk, Izvestiya VUZ--Fizika, No 6, 1972, pp 37-42

Abstract: An account is given of the theoretical computations of the electronic spectra for titanium, vanadium, and chromium diborides by the MOLKAO /expansion unknown/ method, otherwise known as the strong bonding method, which makes it possible to obtain a redistribution of the electrons from the shells of isolated atoms to the orbitals of solid compounds. The purpose of the computation is to obtain information regarding the relative contribution of the electronic states of the metal and the boron to the bonding energy and the physical characteristics of the boride and the redistribution of the electrons for a change in the number of the metal's d-electrons. It is noted that the results of the computations explain the basic laws for the formation of the physico-chemical characteristics of this type of compound. The authors are connected with the Institute of Interdisciplinary Problems, Ukrainian Academy of Sciences.

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USSR

UDC 669.855.051

GORYACHEV, YU. M., and KUTSENOK, T. G.

"Thermal Properties of Alloyed Cerium Sulfide in the Region of Homogeneity"

V sb. Khal'kogenidy (Chalcogenides--collection of works), Vyp 2, Kiev,
"Naukova Dumka", 1970, pp 148-153 (from RZH-Metallurgiya, No 11, Nov 70,
Abstract No 11G186)

Translation: The patterns of change of the coefficient of thermal expansion of Ce_2S_3 - Ce_3S_4 homogeneity and during transition element alloying of alloys are determined. A relation between these patterns and the special features of the structure of Ce_2S_3 - Ce_3S_4 is established. The correlation of the coefficient of thermal expansion with the temperature of melting and the phonon component of the thermal conductivity of alloys is shown and analyzed. 3 ill., 3 tables, 7 bibl. entries.

S. Krivonosova

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USSR

UDC: 621.362.2(088.8)

SAMSONOV, G. V., GORYACHEV, Yu. M., KUTSENOK, T. G., RADZIKOVSKAYA, S. V.,
TEL'NIKOV, Ye. Ya., Institute of Problems in the Science of Materials,
Academy of Sciences of the UkrSSR

"A Thermoelectric Material Based on Cerium Sulfide"

USSR Author's Certificate No 251037, filed 28 May 68, published 22 Jan 70
(from RZh-Elektrotehnika i Energetika, No 10, Oct 70, Abstract No 10A162 P)

Translation: A thermoelectric material based on N-type cerium sulfide is
proposed. As a distinguishing feature of the patent, the thermoelectric
figure of merit is improved by doping $\text{CeS}_{1.35-1.37}$ with 1-2 at.% Nb.

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1/2 031 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--DEUTERON GENERATION ON NUCLEI BY HIGH ENERGY PROTONS -U-
AUTHOR--(05)-GORYACHEV, YU.M., KANAVETS, V.P., LEVINTOV, I.I., MOROZOV,
B.V., NIKIFOROV, N.A.
COUNTRY OF INFO--USSR
SOURCE--YAD. FIZ. 1970, 11(3), 629-35
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--PARTICLE PRODUCTION, DEUTERON, PROTON BOMBARDMENT, SECONDARY
EMISSION, DIFFERENTIAL CROSS SECTION, BERYLLIUM, CARBON, ALUMINUM,
COPPER, TITANIUM, SILVER, GOLD
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1991/1063 STEP NO--UR/0307/70/011/001/0004/0000
CIRC ACCESSION NO--AP0110753
UNCLASSIFIED

2/2 031

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0110753

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CROSS SECTIONS FOR THE PRODUCTION OF D, P, AND PI POSITIVE MESONS HAVE BEEN MEASURED IN THE INTERACTION OF 6.8-GEV-C P WITH BE, C, AL, CU, TI, AG, AND AU NUCLEI. THE SECONDARY PARTICLES WITH A MOMENTUM OF 1.23 GEV-C HAVE BEEN REGISTERED AT 15 MILLIRADIANS IN THE LAB. SYSTEM. THE DEPENDENCE OF THE DIFFERENTIAL CROSS SECTIONS ON THE MASS NO., A, OF THE NUCLEI CAN BE PUT IN THE FORM $D \propto \sigma_{\text{D}} \propto \Omega$ IS SIMILAR TO A χ^2 , WHERE $\chi^2_{\text{SUBD}} \text{ EQUALS } 1.24 \text{ PLUS OR MINUS } 0.01$, $\chi^2_{\text{SUBP}} \text{ EQUALS } 0.69 \text{ PLUS OR MINUS } 0.03$, AND $\chi^2_{\text{SUBPI}} \text{ POSITIVE EQUALS } 0.45 \text{ PLUS OR MINUS } 0.03$. THE OBTAINED RESULTS MAY BE BROUGHT INTO CONSENT WITH THE BUTLER PEARSON MECHANISM OF THE D PRODUCTION IF THE ABSORPTION OF D AND N IN THE NUCLEUS IS TAKEN INTO ACCOUNT. FACILITY: INST. TEOR. EKSP. FIZ., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 621.315.592:539.12.04

GORYACHEVA, GALINA ANATOL'YEVNA; SHAPKIN, ANATOLIY ANATOL'YEVICH; SHIRSHEV, LEV GEORGIYEVICH

"Effect Of Penetrating Radiation On Radio Components"

Deystviye pronikayushchey radiatsii na radiodetaili (cf English above), Moscow, Izd. "Atomizdat," 1971, 120 pp, 32 fig., 35 tab., 52 ref. 71 k.

Abstract: In the book the effect is considered of ionizing radiation on the electrophysical characteristics of materials which are used for production of radio components. Particular attention is paid to theoretical and experimental investigations of the character of the change of parameters of the materials under the conditions of pulsed and continuous γ - and neutron radiation. The results are presented of investigations of the reversible and nonreversible damages to the electrophysical and operational parameters of various types of resistors and capacitors in the process and after the impact on them of γ - and neutron radiation. The principal methods are given of measuring the parameters of radio components under conditions of irradiation.

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GORYACHEV, GALINA ANATOL'YEVNA, et al., Deystviye pronikayushchey radiatsii na radiodetali, Moscow, Izd. "Atomizdat," 1971, 120 pp, 32 fig., 35 tab., 52 ref., 71 k.

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USSR

GORYACHEV, GALINA ANATOL'YEVNA, et al., Deystviye pronikayushchey radiatsii na radiodetali, Moscow, Izd. "Atomizdat," 1971, 120 pp, 32 fig., 35 tab., 52 ref., 71 k.

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USSR

GORYACHEV, GALINA ANATOL'YEVNA, et al., Deystviye pronikayushchey radiatsii na radiodetali, Moscow, Izd. "Atomizdat," 1971, 120 pp, 32 fig., 35 tab., 52 ref., 71 k.

4.3 Techniques of experimental investigation of radio components using static sources of penetrating radiation 108

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1/2 016 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--OXIDATION OF SOLID PETROLUUM PARAFFIN WAX FROM THE VOLOGRAD
REFINERY TO FATTY ACIDS -U-
AUTHOR--(03)-GORVACHEVA, G.A., PERCHENKO, A.A., OBERENKO, A.V.
COUNTRY OF INFO--USSR
SOURCE--NEFTEPERERAB. NEFTEKHIM. (MOSCOW) 1970, (1), 34-7
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, MATERIALS
TOPIC TAGS--PARAFFIN WAX, OXIDATION, PETROLEUM PRODUCT, PETROLEUM
REFINERY, CARBOXYLIC ACID, CHEMICAL SYNTHESIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1996/1527 STEP NO--UR/0318/70/000/001/0034/0037
CIRC ACCESSION NO--AP0118514
UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0118514

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE C SUB10 C SUB20 STRAIGHTCHAIN ACID CONTENT OF THE OXIDIZED WAX CORRESPONDED TO THE AMT. OF N,PARAFFINS IN THE STOCK; A SIMILAR CORRESPONDENCE WAS FOUND FOR THE ISO ACIDS. A SOMEWHAT HIGHER CONTENT OF ISO ACIDS WAS DUE TO THE POST OXIDN. PRODUCTS OF THE ACIDS. PARAFFIN (AV. MOL. WT. 378), M. 53DEGREES AND CONTG. 96.5PERCENT N,PARAFFINS, WAS OXIDIZED 18 HR AT 107-30DEGREES WITH 0.3PERCENT KMNO SUB4 AS AN 8PERCENT SOLN., THE UNSAPOND. PART SEPD., MIXED 2:1 WITH FRESH PARAFFIN WAX, AND OXIDIZED 19.5 HR AT 105-20DEGREES WITH 0.085PERCENT MN AS MN-NA SALTS OF C SUB5-C SUB9 ACIDS. THE PROCESS YIELDED 77.2PERCENT MIXED ACIDS, INCLUDING 52.7PERCENT C SUB10-C SUB20 ACIDS. THE LATTER ACIDS CONTAINED 90-2PERCENT N,ALKANOIC ACIDS AND 9-7.5PERCENT ISO ACIDS.

UNCLASSIFIED

UDC 621.395.347

USSR

KOBLENTS, Ya. G., GRUSEVICH, S. I., KONOVSIIY, A. G., and
GORVACHOVA, L. I.

"Fast-Acting Selective Mixers"

Moscow, Elektrosvyaz', No. 7, 1971, pp 30-35

Abstract: The mixers discussed in this article refer to the circuits used in automatic telephone lines of the decade type. They can be made to operate speedily through the use of quasi-electronic techniques, semiconductor devices and hercons (hermetically sealed contacts). With such instrumentation, the lines are better utilized and there is little delay in establishing contacts. This article presents the basic technical data of such mixing circuits, indicates the connections and switching procedures, and explains their operation with the assistance of block and switching diagrams. Fast-acting selective mixer equipment has proved its worth under test conditions in the telephone lines between Leningrad and Moscow. It is asserted that, in addition to using fast-acting mixers, existing lines should be modified to improve the efficiency of individual operators' equipment. In the information center of the Leningrad lines, for example, two racks of the fast-acting mixer circuits have improved the uniformity of calls on the operators with a 10% increase in information supplied.

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USSR

UDC: 681.327.2

GORYACHEVA, L. N., KIREYEVA, V. F., TUGBAYEV, B. A.

"A Device for Tag Bit Data Retrieval in a Random Access Memory"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki,
No 46, Dec 73, Author's Certificate No 407315, Division G, filed 16 Nov 71,
published 21 Nov 73, p 160

Translation: This Author's Certificate introduces: 1. A device for tag bit data retrieval in a random access memory. The device contains an n -place input register and $(k+m)$ -place and $(n-m+k)$ -place number registers (where $m < k < n$) which are connected to corresponding accumulators. These accumulators are connected to $(m+1)$ -place address registers which are connected, in turn, to an n -place output register. The device also contains an analysis module connected to the input register and to the number registers. Also included is a control module. As a distinguishing feature of the patent, the device is simplified and speed is increased by including an m -place free cell register connected to the digital places from the first to the m -th and from the $(k+1)$ -th to the $(m+k)$ -th digits of the $(m+k)$ -place number register, and also to the digital places from the first to the m -th

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USSR

GORYACHEVA, L. N. et al., USSR Author's Certificate No 407315

and from the $(n-k+1)$ -th to the $(n-k+m)$ -th digits in the $(n-k+m)$ -place number register. The digital places of the input register from the first to the k -th digit are connected to the like places of the $(m+k)$ -place number register, the digital places of the input register from the third to the $(m+r)$ -th digit are connected to the digital places from the second to the $(m+1)$ -th digit of the address registers, and the digital places of the input register from the $(k+1)$ -th to the n -th digit are connected to the digital places from the first to the $(n-k)$ -th digit in the $(n-k+m)$ -place number register. 2. A modification of this device distinguished by the fact that the analysis module consists of three coincidence gates. The inputs of one of these are connected to the digital places from the $(3+m)$ -th to the k -th digit of the input register and the $(m+k)$ -place number register. The inputs of another coincidence gate are connected to the digital places from the first to the m -th digit and from the $(m+1)$ -th to the $2m$ -th digit in both number registers. The inputs of the third coincidence gate are connected to the digital places from the $(k+1)$ -th to the $(k+m)$ -th digit in the $(m+k)$ -place number register and to all digital places of the free cell register. The outputs of all coincidence gates are connected to the control module.

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1/2 029 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--INFLUENCE OF THE TEMPERATURE FIELD PROFILE ON THE RELAXATION OF
RESIDUAL STRESSES DURING LOCAL HEATING OF RING SHAPED WELDS -U-
AUTHOR--(05)--POOSTRIGACH, YA.S., GORIACHEVA, Z.I., BURAK, YA.I., BESEDINA,
L.P., KAZAKOVA, L.A.
COUNTRY OF INFO--USSR
SOURCE--FIZIKO KHIMICHESKAIA MEKHANIKA MATERIALOV, VOL. 6, NO. 1, 1970, P
42-45
DATE PUBLISHED-----70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, MATERIALS

TOPIC TAGS--RESIDUAL STRESS, METAL RING, THERMAL STRESS, WELD JOINT,
STRESS RELAXATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1995/0936

STEP NO--UR/0369/70/006/001/0042/0045

CIRC ACCESSION NO--AP0116445

UNCLASSIFIED

2/2 029

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0116445

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STUDY OF THE DEPENDENCE OF THERMAL STRESSES ON THE TEMPERATURE FIELD PROFILE DURING LOCAL AXISYMMETRICAL HEATING OF RIGID CYLINDRICAL SHELLS. THIS PROBLEM REDUCES TO THE DETERMINATION OF TEMPERATURE FIELDS WHICH, AT A GIVEN TEMPERATURE LEVEL AND WIDTH OF THE HEATING ZONE, GUARANTEE A RELATIVELY LOW LEVEL OF MAXIMUM STRESSES. AN EXPERIMENTAL STUDY IS MADE OF THE USE OF EXTREMUM TEMPERATURE FIELDS FOR LOCAL STRESS RELIEF OF RING SHAPED WELDS.
FACILITY: AKADEMIIA NAUK UKRAINSKOI SSR, FIZIKO MEKHANICHESKII INSTITUT, LVUV, UKRAINIAN SSR.

UNCLASSIFIED

Instrumentation and Equipment

USSR

UDC: 621.762.002.5(088.8)

PAVLOVSKAYA, Ye. I., TIKHONOV, G. F., NIKOLAYEV, A. N., SHTUTMAN, B. A.,
KHRENOV, B. A., GORYACHEVA, Z. V.

"Device for Feeding of Powder into Rolls of a Rolling Mill"

USSR Author's Certificate Number 352685, Filed 8/06/70, Published 26.10/72
(Translated from Referativnyy Zhurnal Metallurgiya, No 8, 1973, Abstract No
8G450).

Translation: The device suggested contains a hopper and a feeder. In order
to increase the quality of the product produced, the feeder is made in the
form of a strip transporter connected through a drive to the rolls of a roll-
ing mill.

1/1

1/2 021 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--FILTRATION OF A CELLULOSE ACETATE SOLUTION THROUGH A POROUS METAL
-U-
AUTHOR--MAKAROVA, L.B., KOSTROV, YU.A., LAKHTIN, V.P., PAVLOVSKAYA, YE.I.
GORYACHEVA, Z.V.
COUNTRY OF INFO--USSR
SOURCE--KHIM. VOLOKNA 1970, (1), 35-7
DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, CHEMISTRY

TOPIC TAGS--FILTRATION, CELLULOSE RESIN, ACETATE, TITANIUM, HYDRAULIC
PRESS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY PEEL/FRAME--1984/1807

STEP NO--UR/0183/70/000/001/0035/0037

CIRC ACCESSION NO--AP0100381

UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0100381

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. POWD. TI (GRANULES 0.4 MM DIAM.) WAS MIXED WITH A 40PERCENT GLYCEROL SOLN. IN ETOH AND PRESSED UNDER A HYDRAULIC PRESS AT 1000DEGREES UNDER AR (THE GLYCEROL SOLN. HAD BEEN REMOVED AT 400-50DEGREES) TO GIVE A FILTER MATERIAL (AV. POROSITY 115-25 MU) FOR THE FILTRATION OF CELLULOSE ACETATE. A CROSS SECTIONAL DIAGRAM OF THE FILTRATION APP. AND ITS MODE OF OPERATION ARE PRESENTED. THE FILTRATION THROUGH A TI POROUS FILTER WAS RAPID AND EFFECTIVE AND FILTRATION CAPACITY OF THE CLOGGED FILTER WAS RESTORED BY ULTRASONIC WASHINGS WITH ME. SUB2. CO.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--INCREASE IN THE THERMAL STABILITY OF ZIRCON CASTING NOZZLES -U-

AUTHOR--(02)-ALEKSEYEVA, A.N., GORYACHEVA, Z.YE.

COUNTRY OF INFO--USSR

SOURCE--OGNEUPORY 1970, 35(3), 46-50

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CERAMIC MATERIAL, METAL INGOT, ZIRCONIUM OXIDE, NOZZLE,
THERMAL STABILITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/1709

STEP NO--UR/0131/70/035/003/0046/0050

CIRC ACCESSION NO--AP0118687

UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0118687

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE THERMAL STABILITY OF ZIRCON NOZZLES CAN BE INCREASED BY INCREASING THE CONTENT OF COARSE FRACTIONS (3-0.5 MM) WHICH INCREASES THE POROSITY, BY ADDING CARBORUNDUM, AND BY EXCLUDING CLAYS WHICH FORM A GLASSY PHASE. THE USE OF THESE NOZZLES WITH INCREASED THERMAL STABILITY IMPROVE THE CASTING CONDITIONS AND INCREASE THE SURFACE QUALITY OF THE INGOTS. FACILITY: VSES. INST. OGNEUPOR., LENINGRAD, USSR.

UNCLASSIFIED

G
USSR

ALEKSEYEVA, A. N., GORYACHEVA, Z. YE.

"Methods of Increasing Heat Resistance of Zirconium Cups"

Moscow, Ogneupory, No 3, Mar 70, pp 46-50

Abstract: The heat resistance of zirconium cups can be increased by increasing the content of larger fractions (3-0.5 mm) in the briquette in the composition of charges, by introducing carborundum and by eliminating clay. The usage of zirconium cups with increased heat resistance allows the pouring conditions in continuous steel casting devices to be improved and increases the surface quality of ingots by decreasing the accumulation of scum on the cups and reducing wear.

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USSR

GORYACHIKH, A. A., TAKIBAYEV, Zh. S., TITOVA, N. S., and SHALAGINA, Ye. v.,
Kazakh State University

"Angular Distribution of Star Tracks Formed by π -Mesons Having an Energy of
60 GeV on Heavy Nuclei of a Photoemulsion"

Moscow, Yadernaya Fizika, Vol 13, No 6, Jun 71, pp 1267-1269

Abstract: The authors study the angular distributions of thin, gray, and black tracks in spallations formed by Ag and Br π -mesons having an energy of 60 GeV. The distributions obtained are compared with the angular distributions of star tracks formed by protons having an energy of 2.25 and 19.5 GeV. The investigation involved 170 stars formed by the interaction with heavy nuclei of an ion photoemulsion having an energy of 60 GeV. With the aid of schematics the authors depict the angular distribution of the thin and gray tracks of these spallations. They find that the angular characteristics of the gray tracks are independent of energy and nature of the primary particle. The research is supported by equations as well as the tables and figures. The article contains two tables, two figures, and a bibliography of two titles.

1/1

Acc. Nr.: AP0029092

Ref. Code: UR 0477

PRIMARY SOURCE: Zdravookhraneniye Belorussii, 1970, Vol 16, Nr 1,
PP 65-68

INHIBITION OF ALLERGIC REACTIONS BY IMURANE IN GUINEA-PIGS

V. A. Ado, L. A. Goryachkina

SUMMARY

The paper presents a strong inhibitory action of the immunodepressant of the imurane cytostatic series on the development of allergic reactions of the immediate and retarded types in guinea-pigs. Serumal anaphylaxis of the guinea-pigs was chosen as model for allergic reactions of the immediate type and for the retarded type — allergic contact 2,4-dinitrochlorbenzene dermatitis.

MB

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REEL/FRAME

19680602

USSR

UDC 669.017

GORYACHKOVSKIY, YU. G., KOSTIKOV, V. I., and FILIMONOV, YE. F., Moscow
Institute of Steel and Alloys, Department of High Temperature Materials

"Experimental Evaluation of the Surface Energy of Graphite"

Ordzhonikidze, IVUZ, Tsvetnaya Metallurgiya, No 5, 1973, pp 81-83

Abstract: The surface energy of polycrystalline graphite was determined from the formula

$$\sigma_T = 3 \frac{F^2 L^2}{E b^2 h^3}$$

where σ_T is the free surface energy of the solid, F is the critical cleavage force, L is the length of the initial fracture, E is the modulus of elasticity, b is the width of the sample, and h is the half-width of the sample. Three types of graphite having a porosity of 20-22% were used. The average value of σ_T from 250 samples of each graphite is as follows: ARV, 2050 ergs/cm²; MG, 1725 ergs/cm²; and MPG, 2130 ergs/cm². Annealing the samples at 2300°C lead
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USSR

GORYACHKOVSKIY, YU. G., et al., TVUZ, Tsvetnaya Metallurgiya, No 5, 1973, pp 81-83

to a significant reduction (on the order of 25%) in σ_T . The value of σ_T was essentially independent of organic surface-active compounds.

2/2

- 16 -

1/2 026

UNCLASSIFIED

PROCESSING DATE--23OCT70

TITLE--REACTION OF MOLYBDENUM (V) OXOTRICHORIDE WITH SOME ALIPHATIC AMINES -U-

AUTHOR--(03)-KUZNETSOVA, A.A., GORYACHOVA, L.F., BUSLAYEV, YU.A.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (3), 509-13

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--MOLYBDENUM COMPOUND, CHLORIDE, ALIPHATIC AMINE, COMPLEX COMPOUND, SOLVENT ACTION, POLYMER, PYROLYSIS, THERMAL DECOMPOSITION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1976

STEP NO--UR/0052/70/000/003/0509/0513

CIRC ACCESSION NO--AP0123757

UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--2000770

CIRC ACCESSION NO--AP0123757

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. REACTION OF MOOCL SUB3 WITH R SUB3 N, WHERE R IS H, ME, OR ET, INVOLVES, IN THE CASE OF PRIMARY AND SECONDARY AMINES, A SOLVOLYSIS REACTION AT THE MO-CL BOND, WHILE TERTIARY AMINES GAVE 1:1 COMPLEXES. THE IR SPECTRA OF THE REACTION PRODUCTS WITH RNH SUB2 AND R SUB2 NH SHOWED THESE TO BE POLYMERIC WITH MOO MOO CHAINS. PYROLYSIS OF ALL THE PRODUCTS AT 500-600DEGREES GAVE MOO SUB2 IN VACUO OR UNDER INERT ATM. THE FOLLOWING WERE ISOLATED: MOOCL SUB2 NHET, BLACK SOLID; MECCL SUB2 NME SUB2, A SOLID; MOOCL(NET SUB2) SUB2, A SOLID; MOOCL SUB3.NME SUB3, YELLOW SOLID; MOOCL SUB3.ET SUB3 N, YELLOW. IN AIR ALL THESE COMPS. DECOMP. AT 300-400DEGREES TO MO OXIDE. FACILITY: INST. ODSHCH. NEORG. KHIM. IM. KURNAKOVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 546.78 + 546.131

KUZNETSOVA, A. A., BUSLAYEV, YU. A., GORYACHOVA, L. F., and PODZOLKO, YU. G., Institute of General and Inorganic Chemistry imeni N. S. Kurnakov, Academy of Sciences USSR

"Tungsten Analog of Phosponitrile Chloride and Some of Its Properties"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 2, Feb 70, pp 463-465

Abstract: The authors undertook to synthesize the tungsten analog of phosphonitrile chloride and to study reactions of this compound with diethylamine, liquid ammonia, water and ethanol. The procedure used for the synthesis of tungsten nitrile chloride was similar to that used previously for the preparation of NbNCl_2 and TaNCl_2 . The resultant tungsten analog was of the composition WNCl_2 . The IR spectrum of WNCl_2 reveals a wide absorption band in the $1000\text{-}500\text{ cm}^{-1}$ region, indicating the presence of "endless" chains -WNWNWN- in the compound. A

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USSR

KUZNETSOVA, A. A., et al., Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 2, Feb 70, pp 463-465

study of the pyrolysis of WCl_2 showed that the compound is stable to 340° in air and to 450° in an argon atmosphere. A study of reactions of WCl_2 with liquid ammonia, diethylamine, ethanol and water showed that, like phosphonitrile chloride, the compound readily undergoes solvolysis with displacement of the chlorine atom by various groups. There are no changes in the tungsten-nitrogen bridge bonds.

2/2

- 35 -

1/2 031 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--ANOMALIES OF MAGNETIC AND ELECTRICAL PROPERTIES IN LITHIUM AND
ALUMINUM FERRITE -U-
AUTHOR-(04)-BELGV, K.P., GORYAGA, A.N., GRIDASOVA, T.YA., LAVORVSKAYA,
O.I.
COUNTRY OF INFO--USSR
SOURCE--FIZ. TVERD. TELA 1970, 12(1), 277-9
DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--LITHIUM, ALUMINUM, IRON, MAGNETOSTRICTION, ELECTRIC
CONDUCTIVITY, THERMAL EFFECT

CONTROL MARKING--RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1980/0250

STEP NO--UR/0181/70/012/001/0277/0279

CIFC ACCESSION NO--490048529

UNCLASSIFIED

2/2 031

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0048529

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE SPECIMEN WAS MAGNETIZED AT 4.2 DEGREES K IN FIELDS LESS THAN OR EQUAL TO 50 KOE. UNDER THESE CONDITIONS, THE SPECIMEN HAS NO MAGNETIC SATN. THIS CAN BE RELATED EITHER TO THE EXISTENCE OF TRIANGULAR ORDERING OR TO A LARGE MAGNETIC ANISOTROPY. CALCNS. SHOW THAT THE 1ST POSSIBILITY IS CORRECT. THE TEMP. DEPENDENCES OF THE ELEC. RESISTANCE AND MAGNETORESISTANCE OF THE FERRITE WERE STUDIED. MAX. WERE OBSD. ON THE CURVE σ VERSUS τ . ONE OF THEM IS DETD. BY THE TRUE MAGNETIZATION NEAR THE CURIE TEMP., AND THE 2ND OCCURS AT TEMPS. WHERE THERE IS AN ANOMALY ON THE CURVE IN R VERSUS $(1-\tau)$. THE EXISTENCE OF THE 2ND MAX. ON THE CURVE $\Delta T_{AR}-R(\tau)$ IS APPARENTLY RELATED TO A DISTORTION OF THE NONCOLLINEAR MAGNETIC STRUCTURE AND ITS TRANSITION INTO A COLLINEAR MAGNETIC STRUCTURE. TEMP. DEPENDENCES OF THE COERCIVE FORCE AND MAGNETIZATION IN WEAK FIELDS DO NOT EXHIBIT ANY ANOMALIES.

UNCLASSIFIED

USSR

UDC: 621.391.6

GORYAINOV, V. T., SMIRNOV, V. A., and KHOKHLOV, V. N.

"Immunity to Correlated Noise in Binary Signal Reception"

Kiev, Izvestiya VUZ SSSR--Radioelektronika, No 9, 1972, pp 1077-1087

Abstract: The assumption is made that a combination of useful signal and noise is input to a receiver, the noise being stationary, normal, and quasiharmonic, with an average value of zero and specified dispersion and correlation function. A simple algorithm for optimizing the processing of the input signal is obtained, and the structure of the optimal receiver for this signal is defined. The block diagram corresponding to this structure is reproduced. Formulas are developed for calculating the probability of erratic reception of binary signals, and some particular cases are examined. A comparison is made between an optimal receiver for signals in a background of correlated noise and an optimal receiver for white noise when the signal is in a correlated noise background.

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USSR

UDC: 621.391.8:519.27

GORYAINOV, V. T., ZHURAVLEV, A. G., TIKHONOV, V. I.

"Examples and Problems in Statistical Radio Engineering. A Textbook for College Students Majoring in Radio Engineering"

Primery i zadachi po statisticheskoy radiotekhnike. Uchebn. posobiye dlya stud. radiotekhn. spetsial'nostey vuzov (cf. English above), Moscow, "Sov. radio", 1970, 597 pp, ill. 1 r. 35 k. (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1A42 K)

Translation: The book is written on the basis of practical classes on statistical radio engineering with students. The fifteen chapters of the book cover all the fundamental areas of statistical radio engineering. In addition to problems, each chapter contains the necessary theoretical data and an analysis of the procedure for solution based on typical examples. The book contains 120 examples and 670 problems in all, selected from Soviet and non-Soviet sources and also formulated by the authors. Reference tables are provided. The book is written chiefly for undergraduate and graduate students majoring in the field of radio engineering and automation. N. S.

1/1

USSR

UDC 678.674:678.01.002.2

GORVAINOVA, A. V., VOLCHEK, A. M., Candidates of Technical Sciences

"Pentaplast--a New Polymeric Material for Chemical Machine-Building"

Moscow, Khimicheskoye i Neftyanoye Mashinostroyeniye, No 9, Sep 71, pp 23-24

Abstract: The article describes results of a study performed at NIIkhimash /All-Union Scientific Research and Design Institute of Chemical Machine-Building/ on the properties of the new chlorinated polyester (Pentaplast) and processing methods for the fabrication of chemical equipment parts and assemblies from it. The physicomechanical properties of Pentaplast were studied on sample strips cut from heated sheets (extrusion sheet obtained at "Plastpolimer" MPO /Expansion unknown/ Leningrad; pressed sheet obtained by pressing on standard presses with the addition of 5 percent Cr_2O_3). A study was made of the chemical stability of pentaplast in various corrosive environments. Welding is done with hot air, by means of the torch used in vinyl-plastic welding.

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USSR

GOR'YAINOVA, A. V., et al, Khimicheskoye i Neftyanoye Mashinostroye-
niye, No 9, Sep 71, pp 23-24

Optimum welding temperature 315°C. It is recommended that welding rods 2, 3, 4 mm in diameter, made by the extrusion method, be used. Stamping of chemical equipment parts from Pentaplast should be carried out by the ordinary method used for thermoplastics, with sheet Pentaplast preheated to 150-160°C. Standard casting machines can be used for the casting of Pentaplast. The temperature in the heated chamber should not exceed 190-210°C. "B" brand Pentaplast is used with the addition of 5 percent chromic oxide to reduce brittleness of the products. NIIemal'khimmash /expansion unknown; possibly All-Union Scientific Research and Design Institute of Enamel Chemical Machine-Building⁷ has mastered the technique of applying powdered Pentaplast in an electrostatic field to parts (housing, rotor) of the TV-600 three-column centrifuge.

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USSR

UDC: 621.397.3

BUKHAROV, A. K., ~~GOR'YAN, I. S.~~, KOROCHKIN, E. V., KHAVKIN, L. M.,
and TSUKKERMANN, I. I.

"Television Automaton for Recognition Study"

Moscow, Tekhnika kino i televideniya, No 3, 1972, pp 52-56

Abstract: The recognition or classification of images can be automated by the use of histograms statistically representing the characteristics of the structures to be recognized. This article describes an automatic device operating on this principle, which uses the time scale and video signal of a standard television camera. The television equipment is operated in combination with an electronic computer using a specific algorithm and programmed for recognition. A general block diagram of the equipment is given together with specific block diagrams of individual assemblies. Photographic samples are also provided of the type of structures and textures recognized: soil specimens and cross sections of metals. Results of experiments with the device are comparable with those obtained by modeling with a computer.

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USSR

GORYAYEV, M. I., ARTAMONOV, A. F., and IGNATOVA, L. A.

"A Purification Method for Naphtenic Acids"

USSR Author's Certificate No 362813, filed 4 Dec 70, published 27 Feb 73
(from RZh-Khimiya, No 19, Oct 73, Abstract No 19N558,P)

Translation: Technical naphthenic acids [NA] obtained by catalytic oxidation of naphthenic hydrocarbons are purified from the carcinogenic admixtures and aromatic hydrocarbons by treatment with ozone at $\leq 30^{\circ}$. Example. 50 g NA (acid number 153, n_D^{20} 1.4830) containing $1.8 \cdot 10^{-7}$ g/g of 3,4-benzpyrene is ozonized for 15 min (ozone consumption 0.03 g). After ozonization no I can be detected by the luminescence-spectral method (the sensitivity of this method is 10^{-9} g/ml). NA is used as growth stimulator in plant growing and animal husbandry.

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- 55 -

Alkaloids

USSR

UDC 541.63 + 547.92

GORYAYEV, M. I., IRISMETOV, M. P., and ROMACHENKO, G. N., Institute of Chemical Sciences, Acad. Sc. KazSSR, Alma-Ata

"Modified Steroids. IX. Synthesis of Heterocyclic Derivatives of the Steroid Alkaloid Solasodine"

Alma-Ata, Izvestiya Akademii Nauk Kazakhskoy SSR, Seriya Khimicheskaya No 1, Jan-Feb 73, pp 70-73

Abstract: To a suspension of sodium methoxide in benzene, ethyl formate was added, followed by 5 α -(5 β -, or Δ^4)-3-ketosolasodane. After an overnight reaction the product was isolated from benzene to yield 2-hydroxymethylene-5 α -solasodan-3-one, m.p. 219-220°C, and its 5 β - and Δ^4 analog, melting, respectively, at 248-250°C and 212-214°C. These products reacted with hydrazine hydrate followed by hydroxylamine hydrochloride yield (3,2s) pyrazolo-5 α -solasodane, m.p. 238-240° as well as the 5 β - and Δ^4 analog, melting at 295-295° and 311-313° respectively and finally (3,2s)-isoxazolo-5 α -solasodane, the 5 β - and Δ^4 analog, melting at 228-229°, 234-235° and 214-215°, respectively.

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Petroleum Processing Technology

USSR

UDC 547.29:631.547

ARTAMONOV, A. F. and GORYAYEV, M. I. Institute of Chemical Sciences, Academy of Sciences Kazakh SSR, Alma-Ata

"Properties and Biological Activity of the Naphthenic Acid Fractions of Baku Oil"

Alma-Ata, Seriya khimicheskaya, No 5, Sept-Oct 71, pp 78-87

Abstract: Described is the vacuum distillation of the total naphthenic acids of Baku oil into a series of fractions characterized by their physicochemical constants, including n_D^{20} , d_4^{20} , MR, elementary composition and IR spectra. The total naphthenic acids were processed in the form of methylesters. The experimental data suggest that the isolated naphthenic acids be categorized as cyclopentane derivatives. The biological activity (plant growth stimulation) of the naphthenic acid fractions was laboratory tested on Khar'kov-46 grade wheat. The highest growth-promoting activity was shown by the sodium salts of the naphthenic acid fraction of medium molecular weight 210-280 ($C_{13}-C_{18}$). The increase in the weight of the wheat's green mass was as high as 40-50% relative to the control sample. (1 illustration, 2 tables, 8 bibliographic references)

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USSR

GORYAYEV, M. I., and SOKOLOV, D. V.

"Accomplishments of the Division of the Chemistry of Natural and Synthetic Biologically Active Compounds"

Alma-Ata, Izvestiya Akademii Nauk Kazakhskoy SSR, Seriya Khimicheskaya, No 4, Jul-Aug 70, pp 47-56

Abstract: In the last few years the Institute of Chemical Sciences has widened its studies in the field of natural substances, and as a result two more laboratories have come out of the Laboratory of Plant Chemistry, viz. the Alkaloid Laboratory and the Hydrolysis Laboratory, both located in Chimkent on the territory of the corresponding plants. Staff members of the Laboratory of the Chemistry of Natural Compounds have published about 400 scientific works. There has been significant quantitative and qualitative growth in laboratory personnel. About 70 candidates and doctors of sciences have defended or are preparing to defend dissertations, and 40 original developments are protected by USSR author's certificates.

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USSR

GORYAYEV, M. I., and SOKOLOV, D. V., Izvestiya Akademii Nauk Kazakhskoy SSR, Seriya Khimicheskaya, No 4, Jul-Aug 70, pp 47-56

Essential oils of wild flora of Kazakhstan and Central Asia, mainly species of wormwood, have been studied by T. YE. SERKEBAYEVA and G. I. KROTOVA, V. S. BAZALITSKAYA, L. K. TIKHONOVA, R. A. YURINA and A. D. DEMBITSKIY, the Mongolian scientist SHATTAR and F. S. SHARIPOVA. The Laboratory of Plant Chemistry has determined the chemical composition of essential oils of many medicinal plants used in medicine. The results of this work are partially reflected in a three-volume work published on the chemistry of essential oils of the USSR and monographs on the chemistry of wormwood and junipers. In the last six years the laboratory has also studied a number of industrial essential oils for the Georgian Ministry of the Food Industry, the Alekseyevka and Kara-Balty Essential Oil Plants and in part for the Priluki Experimental Station (L. A. YEL'CHIBEKOVA and F. S. SHARIPOVA).

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USSR

GORYAYEV, M. I., and SOKOLOV, D. V., Izvestiya Akademii Nauk Kazakhskoy SSR, Seriya Khimicheskaya, No 4, Jul-Aug 70, pp 47-56

In the field of syntheses based on natural compounds, the laboratory for five years has been searching for new catalysts for the isomerization of α -pinen to camphene (R. A. YURINA, T. YE. SAKKE-BAYEVA, L. A. IGNATOVA, F. S. SHARIPOVA, L. K. TIKHONOVA, M. P. IRISMETOV). A number of wild plants have been studied for alkaloid content, the isolation and testing of new alkaloids for the purpose of obtaining growth drugs (V. P. YUR'YEV, I. R. LANGE, P. P. GLADYSHEV, K. A. SHCHUROV). The hydrolysis of vegetable raw material has been studied by M. G. PUGACHEV and A. I. POPOV. Work is under way on the biosynthesis of proteins based on n-paraffins of Mangyshlak petroleum. The Laboratory of Organic Synthesis has been studying the biosynthesis of enzymes (I. N. NAZAROV, G. S. LITVINENKO, N. G. PERMITINA, V. N. RAKCHEVA-KHOKHLOVA, ZH. I. ISIN, B. T. SYDYKOV, K. I. KHLUDNEVA, D.V. SOKOLOV, O. V. AGASHKIN). There have been extensive synthetic and other studies in the decahydroquinoline series (the Chair of Pharmacology

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USSR

GORIYAYEV, M. I., and SOKOLOV, D. V., Izvestiya Akademii Nauk Kazakh-
-skoy SSR, Seriya Khimicheskaya, No 4, Jul-Aug 70, pp 47-56

of Alma-Ata State Medical Institute under the direction of G. I.
SAMARINA, V. V. SOSNOVA, V. I. ARTYUKHIN, M. N. AKIMOVA, K. D.
PRALIYEV).

4/4

- 97 -

TITLE--MODIFIED STEROIDS. V. PMR SPECTRA OF SOLASODANE DERIVATIVES -U-

AUTHOR--(05)--YERYEV, V.P., TILSTIKOV, G.A., VASILYUK, S.M., ROMACHENKO,
G.N., GORYAYEV, M.I.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKADEMIY NAUK KAZ. SSR, SER. KHIM. 1970, 20(2), 33-9

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, CHEMISTRY

TOPIC TAGS--HORMONE, PROTON RESONANCE, PROTON SPECTRUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PRUAY REEL/FRAME--3004/0760

STEP NO--UR/0360/70/020/002/0033/0039

CIRC ACCESSION NO--AP0131355

UNCLASSIFIED

272 C15
ARC ACCESSION NO--AP0131355 UNCLASSIFIED PROCESSING DATE--20NOV70
ABSTRACT/EXTRACT--(U) CP-O- ABSTRACT. SIGNALS OF ME GROUPS 5 ALPHA AND 5
BETA SCLASODANES WERE LOCATED IN THEIR PMR SPECTRA. THE RULE OF
ADDITIVITY OF CHEM. SHIFTS OF ANGULAR ME GROUPS HOLDS IN THIS CLASS OF
COMPODS. AS IN THE CASE OF ANDROSTANES. FACILITY: INST. KHIM.
NAUK, ALMA-ATA, USSR.

UNCLASSIFIED

1/3 007
TITLE--COMPONENTS OF ESSENTIAL OILS. XLVI. SYNTHESIS OF ANALOGS OF AUXINS
BASED ON COMPHOR -U-
AUTHOR--(03)-YURINA, R.A., DEMBITSKIY, A.D., GORYAYEV, M.I.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK KAZ. SSR, SER. KHIM. 1970, 20(1), 86-9
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--HYDROXY CARBOXYLIC ACID, WOOD CHEMICAL PRODUCT, ORGANIC
NITRILE COMPOUND, ESTER, VEGETABLE OIL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1993/0698

STEP NO--UR/0360/70/020/001/0086/0089

ACCESSION NO--AP0113564
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--23OCT70

2/3 007

CIRC ACCESSION NO--AP0113564

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. ANALOGS OF AUXINS (KETO AND HYDROXY ACIDS CONTG. THE 1,1,2,TRIMETHYL,2,CYCLOPENTENYL GROUP) WERE PREPD. FROM CAMPHOR (I). THUS TO 300 G AQ. HI (D. 1.7) 300 G I OXIME WAS ADDED TO GIVE 70PERCENT BETA CAMPHOLENONITRILE (III), M. 225DEGREES. ONE PART II AND ONE PART 50PERCENT ALC. KOH GAVE A PRODUCT WHICH UPON SATN. WITH NH SUB3 PPTD. BETA COMPHOLENIC ACID NH SUB4 SALT, M. 125-6DEGREES (ISOPROH), FROM WHICH FREE ACID (III), M. 52-3DEGREES, B SUB20 185DEGREES, N PRIME20 SUBD 1.4756; (AMIDE M. 85.5-86DEGREES) WAS OBTAINED. TO 50 G III AND 60 ML ET SUB2 O, 60 ML SOCL SUB2 WAS ADDED TO GIVE 49 G BETA CAMPHOLENOYL CHLORIDE (IV), (B SUB10 86-7DEGREES, N PRIME20 SUBD 1.4712). THE CONDENSATION OF 49 G IV WITH 50 G 1,MORPHOLIN,1,CYCLOPENTENE AND 42 ML ET SUB3 N IN 300 ML CHCL SUB3 GAVE 46 G 3,(1,1,2,TRIMETHYL,2,CYCLOPENTENYL),6,OXOENANTHIC AICD (V), B SUB2 183-5DEGREES, N PRIME20 SUBD 1.4885; ME ESTER B SUB2 153-5DEGREES, N PRIME20 SUBD 1.4800, D PRIME20 SUB20 1.0011. THE CONDENSATION OF 98'G IV WITH 98 G 1,MORPHOLIN,1,CYCLOHEXENE GAVE 90 G 3,(1,1,2,TRIMETHYL,2,CYCLOPENTENYL),7,OXOCAPRYLIC ACID (VI), B SUB2 189-91DEGREES, N PRIME20 SUBD 1.4960; ME ESTER B SUB2 159-61DEGREES, N PRIME20 SUBD 1.4860, D PRIME20 SUB20 0.9952.

UNCLASSIFIED

3/3 007

UNCLASSIFIED

PROCESSING DATE--22OCT70

CIRC ACCESSION NO--AP0113564

ABSTRACT/EXTRACT--THE REDN. OF 106 G V OR 100 G VI WITH AL ISOPROPOXIDE
GAVE, RESP., 85 G 3, (1,1,2, TRIMETHYL, 2, CYCLOPENTENYL), 6, HYDROXYENANTHIC
ACID, B SUB2 202-4DEGREES, N PRIME20 SUBD 1.4970 (ME ESTER B SUB2
170-2DEGREES, N PRIME20 SUBD 1.4810, D PRIME20 SUB20 1.0001), AND 84 G
3, (1,1,2, TRIMETHYL, 2, CYCLOPENTENYL), 7, HYDROXYCAPRYLIC ACID, B SUB2
199-202DEGREES, N PRIME20 SUBD 1.4930; ME ESTER 173-50DEGREES, N PRIME20
SUBD 1.4815, D PRIME20 SUB20 0.9931. FACILITY: INST. KHIM.
NAUK, ALMA-ATA, USSR.

UNCLASSIFIED

AA0040629

G

Goryayev, MUR 0482

3-70

Soviet Inventions Illustrated, Section I Chemical, Derwent,

235699 CULTIVATION OF MICROORGANISMS such as yeasts in a medium containing dispersed solid paraffins as a carbon source is improved by increasing the degree of dispersion of the paraffins. This is achieved by preparing a 1% suspension of solid paraffin in water; melting the dispersed paraffin by heating the suspension to 55-60°C; pumping the suspension into an atomiser under a pressure of 8-12 atm. gauge, where the suspension is divided into a number of streams is directed that they collide producing ultrasonic vibrations. By this method, the size of the paraffin particles is reduced to 5µ in average. 28.7.67. as 1175954/28-13, GORYAYEV, M.I. et al. Chemical Sciences Inst. Acad. Sciences Kazakii, SSR. (16.6.69) Bul. 6/24.1.69. Class 6a, Int. Cl. C 12k.

1/2

LD 6

19750187

AA0040629

AUTHORS: Goryayev, M. I.; Tret'yakov, L. I.; Pugachev, M. G.;
and Isay, L. A.

Institut Khimicheskikh Nauk AN Kazakhskoy SSR

19750188

1/2 010
TITLE--CADMIUM SELENIDE -U-

UNCLASSIFIED

PROCESSING DATE--27NOV70

AUTHOR--(03)-PECHKOVSKIY, V.V., PINAYEV, G.F., GORYAYEV, V.M.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 265,092.

REFERENCE--OTKRTIYA, IZOBRET., PROM., OBRAZITSY, TOVANYE ZNAKI, 47(10)20.

DATE PUBLISHED--09MAR70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CADMIUM SULFIDE, CHEMICAL PATENT, SELENIUM COMPOUND, INERT
GAS, SELENIDE, METAL OXIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--3001/1442

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0126973

UNCLASSIFIED

2/2 010 UNCLASSIFIED PROCESSING DATE--27NOV70
CIRC ACCESSION NO--AA0126973
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CD SELENIDE IS PREPD. FROM CDS AND
SED SUB2 AT INCREASED TEMP. IN AN INERT GAS CURRENT CONTG. 0.02-0.7 G
SED SUB2-1. GAS. FACILITY: BELORUSSKIY TEKHNOLGICHESKIY
INSTITUT IM. S. M. KIROVA.

UNCLASSIFIED

1/2 023 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--ON THE REACTION TO HEMODIALYSIS IN THE EARLY POSTOPERATIVE PERIOD
IN PATIENTS AFTER TRANSPLANTATION OF THE KIDNEY -U-
AUTHOR-(03)-YARMOLINSKIY, I.S., LEVITSKIY, E.R., GORYAYNOV, V.A.

COUNTRY OF INFO--USSR

SOURCE--KLINICHESKAYA MEDITSINA, 1970, VOL 48, NR 4, PP 83-88

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DIALYSIS, KIDNEY, ORGAN TRANSPLANT, CARDIOVASCULAR SYSTEM,
HEMORRHAGE, HYPERTENSION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3005/0068

STEP NO--UR/0497/70/043/004/0083/0088

CIRC ACCESSION NO--AP0132362

UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0132362

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN 20 PATIENTS AFTER TRANSPLANTATION OF CADAVERIC KIDNEY IN THE EARLY POSTOPERATIVE PERIOD 117 HEMODIALYSES WERE PERFORMED DURING WHICH THERE WERE NOTED SUCH COMPLICATIONS AS: PYROGENIC REACTION, CARDIOVASCULAR INSUFFICIENCY, HEMORRHAGE, HYPERTENSION. STERILIZATION BY BOILING PRODUCES THE LEAST NUMBER OF PYROGENIC REACTIONS. CARDIOVASCULAR INSUFFICIENCY WAS OBSERVED IN 3 OUT OF 20 PATIENTS AND IN ALL CASES TERMINATED LETHALLY. HEMORRHAGE OCCURRED ONLY WHEN HEMODIALYSIS WAS CARRIED OUT WITH GENERAL HEPARINIZATION (IN 3 OUT OF 5 CASES); IN THE REMAINING 112 HEMODIALYSES WITH REGIONAL HEPARINIZATION THIS COMPLICATED WAS NOT ENCOUNTERED. HYPERTENSION DEVELOPED ONLY IN 4 PATIENTS ON THE 6TH TO 8TH HOUR OF THE PROCEDURE, THIS REQUIRED A REDUCTION OF THE TIME OF HEMODIALYSIS. THE CAUSES OF COMPLICATIONS MAY BE DUE TO THE REACTION OF THE PATIENTS AND TECHNICAL FAULTS DURING THE INSTITUTION OF HEMODIALYSIS. FACILITY: N-1 INSTITUT KLINICHESKOY I EKSPERIMENTAL'NOY KHIRURGII MINISTERSTVA ZDRAVOOKHRANENIYA SSSR, MOSKVA.

UNCLASSIFIED

USSR

UDC 582.26

GORYUNOVA, S. V., PUSHEVA, M. A., and GERASIMENKO, L. M., Institute of Microbiology, Academy of Sciences USSR, Moscow (Presented by Academician A. A. Imshenetskiy)

"The Role of Sulfur-Containing Polynucleotide Peptide Complex in Cell Division in *Chlorella vulgaris*"

Moscow, Doklady Akademii Nauk SSSR, Vol 190, No 4, 1970, pp 966-968

Abstract: The effect of sulfur-containing compounds on growth, maturation and cell division of synchronous and nonsynchronous cultures of *C. vulgaris* was studied. The sulfur-containing polynucleotide peptide complex (S-NP) was isolated from synchronous *C. vulgaris* cells at the stage just prior to division. It was determined in an experiment with nonsynchronous material that addition of S-NP stimulated growth of *C. vulgaris*. In experiments with synchronous material, S-NP was added at different periods of illumination. Experimental data showed that S-NP decreases the generation and cell division period, and increases the quantity of autospores formed. S-NP participates directly in processes leading to nuclear cell division.

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USSR

UDC 669.15.018.44

ALEKSEYENKO, N. N., GORYNIN, I. V., YEFIMOV, A. V., RAZOV, I. A., SIKORSKIY, O. F.

"Effect of Scale and Neutron Irradiation When Testing 15Kh2MFA Heat-Resistant Steel"

Metallovedeniye -- V sb. (Physical Metallurgy -- collection of works), No 14, Leningrad, Sudostroyeniye Press, 1970, pp 186-193 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 41635)

Translation: The effect of the scaling factor on improving the critical embrittlement temperature of 15Kh2MFA heat-resistant steel is studied. It is established that the magnitude of the scaling effect is reached in 80-100 mm samples, and it is ~50°. Neutron irradiation at 150° with a dose of 10^{20} neutrons/cm² ($E > 1$ megaelectron volt) lowers the scaling effect somewhat with an increase in sample size from 5 to 10 mm. It is demonstrated that low sensitivity of this steel to scale and also to loading rate and neutron irradiation arises from its alloying and uniform structure of the sorbite as a result of quenching and tempering. There are 2 illustrations, 6 tables, and a 14-entry bibliography.

1/1

USSR

UDC 669.35.71.1.24.6.782.71.620.193.27(088.8)

VOL, A. Ye., GAYDAY, P. I., GORYNIN, I. V., KAPYRIN, G. I., KUZNETSOV, Ya. Ya.,
PROKOF'YEV, S. N., SUMINOV, N. S., CHIZHIKOV, G. I., SHUMSKIY, K. A.

"Copper-Based Alloy"

USSR Author's Certificate, No. 276417, Filed 27/10/67, Published 16/10/70. (Translated from Referativnyy Zhurnal Metallurgiya, No. 5, 1971, Abstract No. 5 1713P).

Translation: An alloy with increased corrosion-fatigue strength in sea water is suggested. The composition of the alloy (%) is: Al 7-9, Mn 8-12, Fe 2-4, Ni 1.5 - 4, Sn 0.1-0.5, Si 0.1-0.5, remainder - Cu. The technological properties of the alloy can be improved by introducing up to 0.3 % Mg and up to 0.2 % Be. These additions decrease the tendency of the alloy toward film formation. The alloy has (in kg/mm²) $\sigma_b > 65$, $\sigma_{0.2} > 30$, HB 180-210, $\sigma_{-1} \geq 17$ at $10 \cdot 10^6$ cycles and is a promising shipbuilding material.

1/1

Entomology

USSR

UDC 595.7:591.542

TYSHCHENKO, V. P., GORYSHIN, N. I., and AZARYAN, A. G., Department of Entomology, Leningrad State University, and Department of Zoology, Yerevan State University

"Role of Circadian Processes in Insect Photoperiodism"

Moscow, Zhurnal Obshchey Biologii, No 1, 1972, pp 21-31

Abstract: Light and dark circadian processes participate in the photoperiodic reactions of insects. Their absolute durations are specific for each species and geographic population. The length of day and night is measured by mutual phasing of these processes under the influence of the photoperiod. This system permits only a qualitative estimate (shorter or longer than the inborn standard) and thus operates on the principle of a binary code. The photoperiodic measurement of time is attuned ecologically. Temperature and other environmental factors may exert a corrective influence on the operation of the system by adapting the mechanism of the photoperiodic reaction to the different seasons. The transmission of information from the oscillatory apparatus that judges the length of day and night to the endocrine system that controls insect development and diapause is apparently mediated by a photoperiodic counter that sums the number of short and long days throughout the period of larval development.

1/2

USSR

TYSHCHENKO, V. P., et al., Zhurnal Obshchey Biologii, No 1, 1972, pp 21-31

This counter, which plays an important role in the regulation of insect growth, cannot as yet be associated with any morphological structure.

2/2

- 9 -

USSR

UDC 632.91

GORYSHIN, N. I., Candidate of Biological Sciences, Biological Institute,
Leningrad State University

"Alternation of Active and Quiescent Stages -- the Basis of the Yearly
Cycle of Insects"

Moscow, Zashchita Rasteniy, No 10, 1971, pp 36-39

Abstract: The majority of arthropods have a yearly cycle in which an active stage is succeeded by a quiescent stage. In the quiescent stage, processes of protein synthesis and processes of development are sharply inhibited, which enables the insect to survive cold weather. During the active stage of the cycle, some arthropods produce several generations, others only one, and still others require two or more years for a single generation to mature. These differences result from relatively constant physiological factors and varying ecological factors, which cause the size of insect populations to fluctuate.

The ecological factors which affect the seasonal development of various arthropods in the vicinity of Leningrad are examined. The large white cabbage butterfly and turnip butterflies, cabbage and cotton cutworms, the

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- 1 -

USSR

GORYSHIN, N. I., Zashchita Rasteniy, No 10, 1971, pp 36-39

Colorado potato beetle, and others were studied. Two important mechanisms help synchronize the insects' yearly cycle with the rhythm of the climate: 1) the photoperiodic reaction which determines the time when the quiescent stage occurs; and 2) reactivation (termination of the quiescent stage), which is influenced by temperature and other conditions.

2/2

USSR

UDC 669.14.620.178.7

OSTAPENKO, Zh. V., YUSHKEVICH, P. M., and CORYUCHKO, I. G.

"On the Impact Strength of 20K Carbon Sheet Steel"

Dnepropetrovsk, Metallurgicheskaya i Gornorudnaya Promyshlennost', No 5, Sep-Oct 70, pp 35-37

Abstract: An investigation was made to determine the causes for the scattering of impact strength values observed on certain hot-rolled 15-20 mm steel sheets. The results of X-ray and chemical investigations showed that the scattering is related to the macrochemical inhomogeneity of the steel, and also to the liquefaction of carbon, manganese, and silicon. It is shown that an increase in carbon, manganese, and silicon reduces the impact strength.

1/1

1/2 006 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--A COMPLETENESS THEOREM FOR A SYSTEM OF EIGENVECTORS AND ASSOCIATED
VECTORS OF THE OPERATOR PACKET L (λ) EQUALS λ PRIME2 C PLUS
AUTHOR--GORYUK, I.V.

COUNTRY OF INFO--USSR

SOURCE--VESTNIK MOSKOVSKOGO UNIVERSITETA, MATEMATIKA, MEKHANIKA, 1970, NR
1, PP 55-60
DATE PUBLISHED-----70

SUBJECT AREAS--MATHEMATICAL SCIENCES

TOPIC TAGS--EIGENVALUE, MATHEMATIC OPERATOR, VECTOR FUNCTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/0518

STEP NO--UR/0055/70/000/001/0055/0060

CIRC ACCESSION NO--AP0117752

UNCLASSIFIED

2/2 006

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0117752

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHOR PROVES A COMPLETENESS THEOREM FOR A SYSTEM OF EIGENVECTORS AND ASSOCIATED VECTORS OF THE OPERATOR $P(A) L (\lambda)$ EQUALS $\lambda^2 C + \lambda B + E$, WHICH CORRESPOND TO EIGENVALUES OF THE $P(A) L (\lambda)$ EXCEEDING IN MODULUS THE NUMBER $\frac{1}{2}$ PARALLEL TO B PRIME NEGATIVE C .

UNCLASSIFIED

USSR

UDC: 550.637

KULIKOV, A. V., SHERYAKIN, Ye. A., BUSHINA, S. S., COBYUNOV, A. S.,
All-Union Scientific Research Institute of Geophysical Prospecting Methods

"A Method of Geoelectric Prospecting"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obratoy, Tovaryyye Znaki,
No 2, Jan 72, Author's Certificate No 324601, Division G, filed 29 Dec 70,
published 23 Dec 71, pp 143-149

Translation: This Author's Certificate introduces a method of geoelectric prospecting using induced polarization by measuring the phase frequency characteristics of the overall electric field created by grounded sources of a harmonic polarizing field. As a distinguishing feature of the patent, the depth and resolution of the method are improved under the conditions of low-resistance geoelectric sections by measuring the phase characteristics with the supply and reception lines at acute and obtuse angles to one another. The angle between the lines is varied until the low-frequency part of the phase characteristic becomes dependent on this angle, and the presence of polarized objects is judged by the phase change on the low frequency.

1/1

USSR

GORYUNOV, L. V., BELOUSOV, A. I.

"Influence of Variable Gap Height and End Leakage on Distribution of Pressure in a Radial Hydrostatic Bearing"

Tr. Kuybyshev. Aviats. In-t [Works of Kuybyshev Institute of Aviation], 1972, No 51, 116-124 (Translated from Referativnyy Zhurnal Mekhanika, No 5, 1973, Abstract No 5B710, by A. I. Golubev).

Translation: The flow of viscous incompressible fluid in the cross connections between chambers of hydrostatic radial bearings was studied. Curves of the dependence of load-bearing ability of bearings on eccentricity, gap width and bearing design parameters are presented. The curves have maxima at certain values of design parameter. It is established that the width of the chambers significantly influences the load-bearing capacity of the bearing. Isobars of liquid pressure distribution on the connecting gaps are presented with rectangular and I-shaped chambers, determined by the EHDA method. The load-bearing capacity of the bearing is greater with the I-shaped chamber. 7 biblio. refs.

1/1

1/2 010 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--RECRYSTALLIZATION OF THE CALCIUM SULFATE HEMIHYDRATE TO THE
DIHYDRATE -U-
AUTHOR-(04)-ZOTOV, B.G., VOSKRESENSKIY, S.K., ZOTOVA, F.N., GORYUNOV, N.
COUNTRY OF INFO--USSR
SOURCE--U.S.S.R. 263,577
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970, 47(8)
DATE PUBLISHED--10FEB70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL PATENT, CRYSTALLIZATION, AQUEOUS SOLUTION, CALCIUM
SULFATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3004/1837

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0132102

UNCLASSIFIED

2/2 010 UNCLASSIFIED PROCESSING DATE--27NOV70
CIRC ACCESSION NO--AA0132102
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RECRYSTN. TAKES PLACE IN AQ.
SOLNS. OF H SUB 3 PD SUB 4, TREATED WITH GASEOUS CO SUB 2 OR AN AQ.
SOLN. CONTG. CO SUB 2.

UNCLASSIFIED

USSR

UDC 621.382.3

BOBROVSKIY, G.A., GORYUNOV, N.N., SEMELEV, S.K.

"Investigation Of The Effect Of Gamma Irradiation On The Parameters Of Transistors Used In Micromodule Magneto-Semiconductor Components"

Dokl. nauchno-tekhn. konferentsii po ispol'z. ionizir. izlucheniya v nar. zh-ve
(Reports Of The Scientific-Technical Conference On The Use Of Ionized Radiation In The National Economy), Issue 3, Tula, Priokskiy Book Press, 1970, pp 294-305
(from RZh--Elektronika i yeye primeneniye, No 4, April 1971, Abstract No 48228)

Translation: Averaged quantitative indices are presented for the dependences of the parameters of transistors on an integral dose of Gamma radiation, and a connection is also established between the efficiency of a micromodule magneto-semiconductor component (MSC), after irradiation of its transistor part, and an integral dose of Gamma radiation. It is noted that the current amplification factor β and the back current of the emitter junction I_{go} undergo the greatest change. Forty Type TM-5 alloy-type germanium transistors which are used in micromodules of MSC were investigated with respect to a complex of parameters under control. The correspondence of the complex of their parameters to the norms of technical conditions was taken into account by the criterion of the reliable functioning of transistors which are tested in the structure of the MSC. The irradiation dose amounted to $\sim 5.0 \cdot 10^8$ R. G.V.

1/1

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USSR

UDC 621.382.3

GCRYUNCY, N.N., DEMINA, G.K., ITKIN, B.YA., MCSTOVLYANSKIY, N.S.

"Investigation Of Transistors Rejected During Tests Under An Electrical Load"

Elektron. tekhnika. Nauchno-tekhn. sb. Poluprovodn. pribory (Electronic Technology. Scientific-Technical Collection. Semiconductor Devices), 1970, No 1(51), pp 106-115 (from RZh--Elektronika i yeye primeneniye, No 12, December 1970, Abstract No 128177)

Translation: On the basis of an analysis of the overall rejections (breakdowns) of Type P605-P606 conversion Ge transistors of average power, the weak spots in the transistor structure developed during tests under an electrical load is where formation of a short circuit is most probable. It is shown that breakdowns of the emitter-collector junction originate with a decrease of the distance from the emitter to the groove [kanavka]; an acute angle of the emitter (and consequently of the collector junction) in the interior of the crystal at the ends of the emitter strip increases the intensity of the electrical field in the area of the space charge of the collector, which also can lead to a breakdown; and a breakdown of the base-collector develops in the area of increased intensity of the field and at points of mechanical defects. Several other causes of breakdowns are considered. 8 ill. 2 ref.

1/1

USSR

UDC 621.382.5

GODOV, A.N., GORYUNOV, N.N., ITIN, B.YA., KOTOV, V.N.

"Evaluation Of The Quality Of Transistors With Respect To Transient Thermal Responses"

Elektron. tekhnika. Nauchno-tekhn. sb. Upr. kachestvom i standartiz. (Electronic Technology. Scientific-Technical Collection. Quality Control And Standardization), 1970, Issue 3, pp 22-28 (from RZh--Elektronika i yeye primeneniye, No 4, April 1971, Abstract No 42595)

Translation: An account is given of a new method for evaluation of the quality of transistors with respect to transient thermal responses. A unit for observation of these responses is described. The solution of an equation for thermal conductivity is presented, which makes it possible to analyze thoroughly transient thermal responses obtained experimentally. Summary.

1/1

USSR

POVAROV, G. N., GORYUNOV, V. I.

"Machine Study of Group Invariance of Boolean Functions"

Ekonom.-mat. Metody i Programmir. Plan.-ekon. Zadach. [Mathematical Economics Methods and Programming of Planning and Economic Problem -- Collection of Works], Moscow, 1972, pp 19-33 (Translated from Referativnyy Zhurnal, Kibernetika, No 1, 1973, Abstract No 1 V629 by V. Orlov).

Translation: The problem is studied of recognition of the invariance of Boolean functions relative to Jevons transforms (renaming of variables and replacement of variables with their negatives) by means of computers. Programs are presented for solution of this problem for functions of 4 and 5 variables.

1/1

USSR

UDC 542.957+541.57+546.59+546.26

PEREVALOVA, E. G., BAUKOVA, T. V., GORVUNOV, Ye. I., and GRANDBERG, K. I.,
Institute of Organoelemental Compounds, Academy of Sciences of the USSR

"Splitting of the Gold-Carbon Bond in Phenylgold Triphenylphosphine"

Moscow, IAN SSSR, Seriya Khimicheskaya, No 9, Sep 70, pp 2,148-2,150

Abstract: The authors investigated the reactivity of the Au-C bond in phenylgold triphenylphosphine. It was found that interaction of hydrogen chloride gas, or aqueous and alcohol solutions of hydrogen chloride with a benzene solution of phenylgold triphenylphosphine (I) produces gold chloride triphenylphosphine (II).

Reaction of concentrated hydrogen bromide and hydrogen iodide solutions with (I) gives gold bromide triphenylphosphine and gold iodide triphenylphosphine in quantitative yields. Reaction of (I) with halogens at 15°C also breaks the Au-C bond with the formation of triphenylphosphine complexes of halide salts of univalent gold.

The bond is also broken by acetyl chloride, trifluoroacetic acid anhydride and
1/2

USSR

PEREVALOVA, E. G., et al, IAN SSSR, Seriya Khimicheskaya, No 9, Sep 70, pp 2,148-2,150

mercuric chloride. However, it was found that the Au-C bond is resistant to alkaline agents. The phenyl radical formed by splitting of the bond will be studied in a future paper.

2/2

- 59 -

USSR

UDC 542.957+541.57+546.59+546.26

PEREVALOVA, E. G., BAUKOVA, T. V., GORYUNOV, Ye. I., and GRANDBERG, K. I.,
Institute of Organoelemental Compounds, Academy of Sciences of the USSR

"Splitting of the Gold-Carbon Bond in Phenylgold Triphenylphosphine"

Moscow, IAN SSSR, Seriya Khimicheskaya, No 9, Sep 70, pp 2,148-2,150

Abstract: The authors investigated the reactivity of the Au-C bond in phenylgold triphenylphosphine. It was found that interaction of hydrogen chloride gas, or aqueous and alcohol solutions of hydrogen chloride with a benzene solution of phenylgold triphenylphosphine (I) produces gold chloride triphenylphosphine (II).

Reaction of concentrated hydrogen bromide and hydrogen iodide solutions with (I) gives gold bromide triphenylphosphine and gold iodide triphenylphosphine in quantitative yields. Reaction of (I) with halogens at 15°C also breaks the Au-C bond with the formation of triphenylphosphine complexes of halide salts of univalent gold.

The bond is also broken by acetyl chloride, trifluoroacetic acid anhydride and
1/2

USSR

PEREVALOVA, E. G., et al, IAN SSSR, Seriya Khimicheskaya, No 9, Sep 70, pp 2,148-2,150

mercuric chloride. However, it was found that the Au-C bond is resistant to alkaline agents. The phenyl radical formed by splitting of the bond will be studied in a future paper.

2/2

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1/2 026 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--ORGANIC CULTURES OF THE RESPIRATORY TRACT OF HUMAN EMBRYO -U-
AUTHOR--(03)-GORYUNOVA, A.G., ALEKSEYEVA, A.K., ZALKIND, S.YA.
COUNTRY OF INFO--USSR
SOURCE--BYULLETEN' EKSPERIMENTAL'NOY BIOLOGII I MEDITSINY, 1970, VOL 69,
NR 5, PP 108-111
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--EMBRYOLOGY, RESPIRATORY SYSTEM, TISSUE CULTURE, CULTURE
MEDIUM, VITAMIN, PENICILLIN, STREPTOMYCIN, GLUCOSE, INFLUENZA VIRUS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1998/0198 STEP NO--UR/0219/70/069/005/0108/0111

CIRC ACCESSION NO--AP0120896
UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0120896

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BY THE METHOD OF ORGAN CULTURES ON MILLIPORE HA FILTERS THE AUTHORS CULTIVATED TISSUES OF THE TRACHEA, NASAL EPITHELIUM AND LUNG OF 5-6 MONTH OLD HUMAN EMBRYOS. THE NUTRIENT MEDIUM WAS COMPOSED OF 80PERCENT NG. 199 MEDIUM, 20PERCENT OF EMBRYONIC EXTRACT WITH THE ADDITION TO 1 ML OF MEDIUM OF 4 MG OF GLUCOSE, 10 MG OF VITAMIN A AND 100 UNITS EACH OF PENICILLIN AND STREPTOMYCIN. CULTURES OF THE TRACHEA RETAINED VIABILITY FOR 2 MONTHS (OBSERVATION PERIOD), CULTURES OF THE NASAL EPITHELIUM AND PULMONARY TISSUE, FOR ONE AND ONE HALF MONTHS. THE CULTURES WERE INFECTED WITH A2 INFLUENZA VIRUS IN A DOSE OF 10 PRIME5-10 PRIME6 ID SUB50 AND ITS PROPAGATION WAS STUDIED SIMULTANEOUSLY WITH INOCULATION OF VIRAL PARTICLES AND 7-35 DAYS AFTER BEGINNING OF CULTIVATION. IT IS SHOWN THAT A2 INFLUENZA VIRUS IS CAPABLE OF PROPAGATION IN ALL THREE TYPES OF CULTURES DURING THE ENTIRE PERIOD OF CULTIVATION. IN THE EXPLANTS OF THE PULMONARY TISSUE STRAINS OF A2 INFLUENZA VIRUS POSSESSING AND NOT POSSESSING RESIDUAL VIRULENCE FOR MAN MULTIPLY. FACILITY: MOSCOW SCIENTIFIC RESEARCH INSTITUTE OF VIRAL PREPARATIONS.

UNCLASSIFIED

Acc. Nr.: **AP0029498**

Ref. Code: UR 0297

PRIMARY SOURCE: Antibiotiki, 1970, Vol 15, Nr 1, pp 29-30

DETERMINATION OF MURAMIDASE PRODUCTION IN VARIOUS CELL CULTURES
OF HUMANS AND ANIMALS

A. G. Goryunova, O. V. Chakhava

Institute for Virus Preparations, N. F. Gamaleya Institute for Epidemiology and Micro-
biology of Academy of Medical Sciences of the USSR, Moscow

Primary cell cultures prepared by trypsinization of the monkey kidneys, the embryo kidneys of humans and chickens, the skin muscle tissues of mouse and human embryos, hen fibroblasts, transplantable cell lines (SOC, FK, HeLa, Hep-2, Ma-134, KPK, C₁₈, PAO, Rh, Liv, D₆), diploid cells Wi-38, as well as cultures of histiocyte macrophages of the mouse bone marrow and leucocytes of human peripheral blood were used. Investigation of the cell extracts and the culture fluids showed the absence of muramidase production in all the above cultures except the latter two. The settled histiocyte macrophages and macrophages of hematogenic origin must be the main sources of muramidase (lysozyme) in various host tissues.

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REEL/FRAME

19681099

gm
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USSR

UDC 615.281.8:665.336.6

VICHKANOVA, S. A., DZHANASHIYA, N. M., and GORYUNOVA, L. V., All-Union
Institute of Medicinal Plants, Moscow

"Antiviral Activity of the Essential Oil of *E. viminalis* and Some Other
Hardy Eucalyptus

Moscow, Farmakologiya, i Toksikologiya, No 3, 1973, pp 339-341

Abstract: The antiviral action of essential oils obtained from 4 eucalyptus species - *E. viminalis*, *E. macarthurii*, *E. dalrympleana*, and the pharmacopoeial *E. cinerea* - was studied in two models of influenza (in vitro and in ovo). Mice were injected intranasally with a mixture of an essential oil (100 μ g/ml) and influenza virus. Chick embryos were injected with an essential oil and infected with virus 2 hours later. The virucidal effect of the essential oils was clearly manifested only at LD₁₀₀ (80 to 100% survival rate). The antiviral activity of the essential oil of *E. viminalis* (at LD₁₀₀) was higher than that of *E. cinerea* in the in vitro experiments but somewhat lower in the chick embryo model (3- to 11-fold decrease in hemagglutination titer compared with the control).

1/1

- 39 -

USSE

UDC 621.372.6.01.0

GORIKOVA, E. A., LASHOV, YE. I., SHAY, V. A.

"Complex Semiconductors -- Prospective Materials in Microelectronics"

Mikroelektronika -- V sb. (Microelectronics -- Collection of Works), No 4, Moscow, Soviet Radio Press, 1971, pp 152-174 (from Mikroelektronika, No 10, Oct 71, Abstract No 10V178)

Translation: A study was made of the combination of properties in various groups of binary and ternary semiconductor compounds and also solid solutions based on them. The most interesting properties of these groups of materials for microelectronics are presented. An effort has been made to analyze the prospects for application of new semiconductor materials in functional microelectronics and optoelectronics. There are 7 tables and a 20-entry bibliography.

1/1

Single Crystals

UDC 621.315.592(088.8)

USSR

GORYUNOVA, N. A., ORLOV, V. M., SOKOLOVA, V. I., TSVETKOVA, YE. V., and
~~SHPEN KOV, G. V.~~, Physicotechnical Institute imeni A. F. Ioffe

"Method of Preparing Copper-, Tin-, and Phosphorus-Base Single Crystals"

USSR Authors' Certificate No 252289, Cl. 12c, 2, (Bcl^d), filed 11 Jun 68,
published 30 Jul 70 (from RZh-Metallurgiya, No 3, Mar 71, Abstract No 33529)

Translation: The method of preparing Cu, Sn-, and P-base single crystals, for example Cu_4SnP_{10} , at high temperatures is unique in that, in order to obtain a semiconductor compound possessing photoelectric sensitivity in the IR region of the spectrum, the crystallization process is carried on from solution in an Sn melt, with charge components taken in the following ratios (wt.%): Cu 36.7-37.7, Sn 17-17.8, P 44.8-46. Phosphorus is taken with an excess of 1-1.5 wt.% as compared with calculations. The process is conducted at 1000-1050° for 1-1.5 hr with subsequent slow cooling at a rate of 20± 5 deg/hr.

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1/2 025 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--PREPARATION AND SOME PROPERTIES OF ZINC CYANAMIDE -U-

AUTHOR--(05)--GALOCHKINA, G.M., GORYUNOVA, N.A., SEYFER, G.B., VAYPOLIN,
A.A., KHARITONOV, YU.YA.
COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(3), 486-92

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PHYSICAL CHEMISTRY PROPERTY, IR SPECTRUM, ABSORPTION SPECTRUM,
THERMAL DECOMPOSITION, CYANAMIDE, ZINC COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1994/1901

STEP NO--UR/0363/70/006/003/0436/0492

CIRC ACCESSION NO--AP0115720

UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--090CT70

CIRC ACCESSION NO--AP0115720

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DURING INVESTIGATION OF THE
Zn(OAC) SUB2 H SUB2 NCN SUB2 H SUB2 G NH SUB4 OH SYSTEM BY PHYS. CHEM.
ANAL. METHODS, THE FORMATION OF ZNCN SUB2 AND BASIC (Zn(OH)) SUB2 CN
SUB2 WAS ESTABLISHED. IN THE ABSENCE OF A CONST. GAS EXCHANGE THE
THERMAL DECOMPN. OF ZNCN SUB2 PROCEEDS AT GREATER THAN 824DEGREES WITH
THE EVOLUTION OF N AND THE FORMATION OF METALLIC ZN AND FREE C. THE D.
OF NORMAL ZNCN SUB2 WAS DETD. TO BE 2.825 G-CM PRIME3 AND THE WIDTH OF
THE FORBIDDEN BAND WAS SIMILIAR TO 3.1 EV. THE IR ABSORPTION SPECTRA OF
NORMAL CYANAMIDES OF ZN AND CD WERE STUDIED, ATTESTING TO THE SYM.
STRUCTURE OF THE CYANAMIDE GROUP IN BOTH COMPS. FACILITY: FIZ.
TEKH. INST. IM. IOFFE, LENINGRAD, USSR.

UNCLASSIFIED

1/2 035 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--BOLT AMPERE CHARACTERISTICS OF AMORPHOUS LAYERS BASED ON A PRIMEII
B PIMEIV-C PRIMEV TERNARY SYSTEMS -U-
AUTHOR--(05)-BARYSHEV, V.G., BOLTIYETS, N.A., BORSHEVSKIY, A.S.,
GORYUNOVA, N.A., ORESHKIN, P.T.
COUNTRY OF INFO--USSR

SOURCE--FIZ. TEKH. POLUPROV. 1970, 4(2), 372-5

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, MATERIALS

TOPIC TAGS--AMORPHOUS SEMICONDUCTOR, VOLT AMPERE CHARACTERISTIC, THIN FILM
SEMICONDUCTOR, ARSENIDE, GERMANIUM COMPOUND, CADMIUM COMPOUND,
PHOSPHIDE, PULSE SIGNAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1988/0088

STEP NO--08/0449/70/06/7002/03/2/0315

CIRC ACCESSION NO--AP0105174

UNCLASSIFIED

2/2 035

UNCLASSIFIED

PROCESSING DATE--230017

CIRC ACCESSION NO--AP0105174

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AMORPHOUS LAYERS (2-6 MU THICK) WERE PREPD. BY VACUUM SPUTTERING OF OXGEAS SUB2, ZNGEAS SUB2, AND OXGEAS SUB2 ON GLASS SUBSTRATES AND WERE PROVIDED WITH EVAPD. METAL ELECTRODES (SN, PB). THE FILM COMPS. DID NOT CORRESPOND TO THOSE OF THE INITIAL SUBSTANCES; THE CONTENT OF THE LEAST VOLATILE COMPONENT (GE) WAS DECREASED. ON THE DYNAMIC CURRENT VOLTAGE CHARACTERISTICS OF THE FILMS, SWITCHING FROM THE CUTOFF TO THE OPEN STATE WITH MEMORY WAS FOUND. THE CHARACTERISTICS WERE NOT AFFECTED BY CHANGES IN FREQUENCY OF 3 ORDERS OF MAGNITUDE. THE THRESHOLD OF NEG. RESISTANCE IN THE FILMS STUDIED WAS SIMILAR TO 2 TIMES 10 PRIME4 V-CM. THE CURRENT VOLTAGE CHARACTERISTICS STUDIED WITH RECTANGULAR PULSES SHOWED THAT THE MEMORY IS PRESENT FOR PULSE DURATION GREATER THAN 4 TIMES 10 PRIME NEGATIVE6 SEC AND THAT THE BREAKDOWN VOLTAGE INCREASES WITH DECREASING PULSE DURATION. THE SWITCHING FROM THE CUTOFF TO THE OPEN STATE IS DETD. BY AN ACCUMULATED CHARGE; I.E., IT DEPENDS ON BREAKDOWN VOLTAGE AS WELL AS ON BREAKDOWN CURRENT. FACILITY: FIZ. TEKH. INST. IM. IOFFE, LENINGRAD, USSR.

UNCLASSIFIED

Acc. Nr: **170048318** - Abstracting Service:
CHEMICAL ABST. 5-70

Ref. Code:
4R0020

G

103334c Preparation of CdSiAs₂ in the vitreous state. Bot-
toverts, N. S.; Goryunova, N. A.; Prochukhan, V. D.; Ser-
ginov, M. (Fiz.-Tekh. Inst. im. Ioffe, Leningrad, USSR).
Dokl. Akad. Nauk SSSR 1970, 190(3), 619-20 [Phys. Chem]
(Russ). A vitreous form of CdSiAs₂ is produced by hardening a
melt contg. stoichiometric amts. of the elements and also CdSiAs₂
which is prepd. according to a method described by G. K. Aver-
kieva, *et al.* (1969). This semiconductor possesses a softening
temp. around 500°, which significantly exceeds the softening
temp. of other glasses of this type. C. J. Stenberg

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19800020

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